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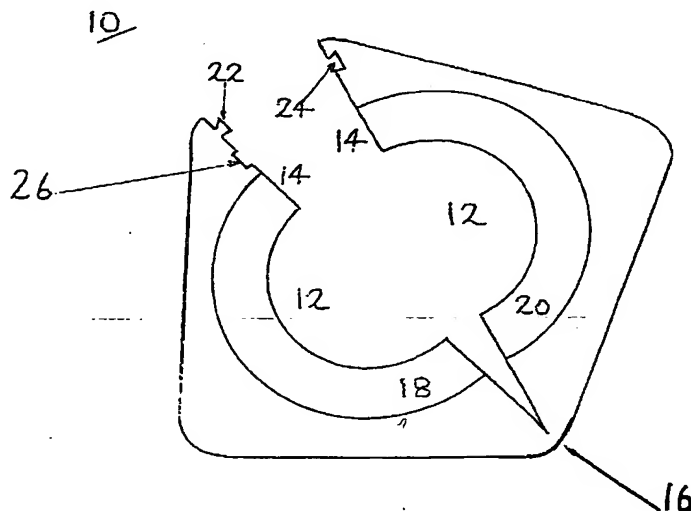
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: WASHER



(57) Abstract: A splittable washer shown generally at (10), for example for use in a plumbing installation in which a pipe member is mounted in or connected to an article of sanitaryware, comprises separable parts (18) and (20) which are held together by hinge (16). When the washer is in the open configuration it may be fitted to or removed from the stem of tap on the underside of a sanitaryware unit without having to remove a securing nut from the stem of a tap. To close a washer the parts (18) and (20) are urged together until key projection (22) locates in socket (24). In the closed configuration the washer substantially encloses the stem of a tap.

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INTERNATIONAL SEARCH REPORT

PCT/GB 03/02992

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E03C1/04 F16B43/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E03C F16B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 1 418 052 A (BARTON CHARLES N) 30 May 1922 (1922-05-30) page 2, line 38 - line 44; figures 1-5 --- | 1-9, 22-25 |
| X | US 1 597 525 A (KNAKE ARTHUR H) 24 August 1926 (1926-08-24) the whole document --- | 1-7, 22-25 |
| X | US 3 495 496 A (KEIM MELVILLE) 17 February 1970 (1970-02-17) column 1, line 43 - line 60 column 2, line 48 - line 48; figures 1-3 --- | 1,3,5-9, 22 |
| X | US 1 812 657 A (REINHARD LEITZKE) 30 June 1931 (1931-06-30) the whole document --- | 1,4, 7-10,22 |
| | -/-- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|---|-----------------------|
| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | US 4 502 165 A (LEE KENNETH ET AL) 5 March 1985 (1985-03-05) abstract; figure 1 column 2, line 46 - line 62 --- | 1,7-10, 22 |
| X | GB 1 515 257 A (BARKING BRASSWARE) 21 June 1978 (1978-06-21) the whole document --- | 1,7-10, 22 |
| A | DE 202 02 375 U (FRANZ BRINKMANN GMBH) 25 April 2002 (2002-04-25) page 8, line 14 - line 18 --- | 11 |
| X | US 5 044 854 A (OH JUNG HO) 3 September 1991 (1991-09-03) figures 4,6 --- | 12,13, 18,21 |
| X | US 4 560 312 A (GRADY JAMES H) 24 December 1985 (1985-12-24) figure 3 ----- | 12 |

INTERNATIONAL SEARCH REPORT

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11, 22-25

A washer comprising two parts forming a bore, the washer being able to enclose a pipe in the bore and allow to insert or withdraw a pipe radially from the bore, and a method therefor

2. Claims: 12-21, 26-27

A washer comprising a bore and a projection for locating the washer into a gap between a pipe and a sanitary appliance, and a method therefor

INTERNATIONAL SEARCH REPORT

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| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|---|---------------------|----------------------------|---------------------|
| US 1418052 | A | 30-05-1922 | NONE | |
| US 1597525 | A | 24-08-1926 | NONE | |
| US 3495496 | A | 17-02-1970 | NONE | |
| US 1812657 | A | 30-06-1931 | NONE | |
| US 4502165 | A | 05-03-1985 | NONE | |
| GB 1515257 | A | 21-06-1978 | NONE | |
| DE 20202375 | U | 25-04-2002 | DE 20202375 U1 | 25-04-2002 |
| US 5044854 | A | 03-09-1991 | KR 9001257 B1 | 05-03-1990 |
| | | | US 5110243 A | 05-05-1992 |
| US 4560312 | A | 24-12-1985 | NONE | |